Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Former Nextel Communications, Inc.	)	WT Docket No. 06-169
Upper 700 MHz Guard Band	)	
Licenses and Revisions to Part 27 of	)	
the Commission's Rules	)	
	)	
Development of Operational,	)	WT Docket No. 96-86
Technical and Spectrum	)	
Requirements for Meeting Federal,	)	
State and Local Public Safety	)	
Communications Requirements	)	
Through the Year 2010		

COMMENTS OF ACCESS SPECTRUM, LLC AND PEGASUS COMMUNICATIONS CORPORATION

Michael I. Gottdenker, Chairman and CEO
Andrew J. Rein, Director, Strategy & Operations
Access Spectrum, LLC
2 Bethesda Metro Center
Bethesda, MD 20814-6319

Ruth Milkman
Kenneth Boley
Lawler, Metzger, Milkman & Keeney, LLC
2001 K Street NW, Suite 802
Washington, DC 20006
kboley@lmmk.com
Counsel to Access Spectrum, LLC

Marshall W. Pagon, Chairman and CEO
Cheryl Crate, Vice President for Corporate Communications and Government Relations
Pegasus Communications Corp.
225 City Avenue, Suite 200
Bala Cynwyd, PA 19004

Kathleen Wallman
Wallman Consulting, LLC
9332 Ramey Lane
Great Falls, VA 22066
(202) 641-5387
wallmank@wallman.com
Adviser to Pegasus Communications Corp.

October 23, 2006

TABLE OF CONTENTS

I. Introduction and Summary 1

II. Discussion 3

A. Optimizing the Upper 700 MHz Band 3

1. The Broadband Optimization Plan 4

2. Changes to Commercial Spectrum in the Upper 700 MHz Band 7

3. Harmonizing the Technical Rules for Upper 700 MHz Commercial Spectrum 9

4. Unifying the Service Rules for Upper 700 MHz Commercial Spectrum 11

B. Resolution of BOP Implementation Issues 14

1. Impact on Already-Deployed 700 MHz Public Safety Equipment 15

2. Updating the Spectrum Planning Database 16

3. Ensuring That Public Safety Does Not Incur Additional Costs Due to Conversion of Deployed Systems or Changes to CAPRAD 16

4. International Border Issues 17

C. Conforming Existing Licenses to the BOP 19

III. Conclusion 20

Appendix: Replacing the Band Manager Rules With the Secondary Markets Rules

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Former Nextel Communications, Inc.	)	WT Docket No. 06-169
Upper 700 MHz Guard Band	)	
Licenses and Revisions to Part 27 of	)	
the Commission's Rules	)	
	)	
Development of Operational,	)	WT Docket No. 96-86
Technical and Spectrum	)	
Requirements for Meeting Federal,	)	
State and Local Public Safety	)	
Communications Requirements	)	
Through the Year 2010		

COMMENTS OF ACCESS SPECTRUM, LLC AND PEGASUS COMMUNICATIONS CORPORATION

I. INTRODUCTION AND SUMMARY

In the accumulated record of pending proceedings affecting the Upper 700 MHz Band thus far, the plan proposed by Access Spectrum, LLC ("Access Spectrum") and Pegasus Communications Corporation ("Pegasus") in the *Public Safety 700 MHz Broadband* proceeding[1] and the *Commercial 700 MHz* proceeding[2] is the one and only plan that:

- Provides a vision for the last and best opportunity for a 4G auction in the United States and ensures that the auction occurs on a timely basis;
- Maximizes technology choice and spectral efficiency and thus will produce the most efficient and effective investment in wireless broadband; and

---

[1] *The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010*, Eighth Notice of Proposed Rulemaking, 21 FCC Rcd 3668 (2006) (FCC 06-34) ("*Public Safety 700 MHz Broadband* proceeding" or "*Public Safety 700 MHz Broadband 8th NPRM*").

[2] *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Notice of Proposed Rulemaking, Fourth Further Notice of Proposed Rulemaking, and Second Further Notice of Proposed Rulemaking, 21 FCC Rcd 9345 (2006) (FCC 06-114) ("*Commercial 700 MHz* proceeding").

- Harmonizes the commercial and public safety allocations and confers a benefit of more than $6 billion on the public safety community ("Public Safety"), which will in turn enable Public Safety's use of the best wireless broadband technology and applications available anywhere.

In all the comments filed in the *Public Safety 700 MHz Broadband* proceeding and the *Commercial 700 MHz* proceeding, no preferable or even comparable plan has been proposed that results in such compelling benefits to both Public Safety and commercial users. Thus, we urge again that the FCC expeditiously adopt the Access Spectrum/Pegasus plan. In order to achieve the full benefits of this plan, the Commission must coordinate its decisions in the three pending 700 MHz proceedings: the *Public Safety 700 MHz Broadband* proceeding, the *Commercial 700 MHz* proceeding, and the above-captioned proceeding addressing the Upper 700 MHz A and B Blocks.

In these comments, we recap the aspects of the proposals that have already been presented in the two above-mentioned, related dockets, including the Broadband Optimization Plan ("BOP"), and our proposal for the reconfiguration of commercial spectrum in the Upper 700 MHz band ("Commercial 700 MHz Plan"). In addition, we explain that public safety operations would continue to be protected if both the technical rules and the service rules applied to the Upper 700 MHz C and D Blocks were also applied, as we urge, to the rest of the commercial spectrum in the Upper 700 MHz band, specifically the A Block reconfigured as we have previously proposed. Such harmonization among the commercial spectrum blocks would result in the elimination of rules that currently distinguish the Upper 700 MHz A and B Blocks from the Upper 700 MHz C and D Blocks, including the band manager rules, the cellular architecture prohibition, and the adjacent channel power limitations.

These comments also provide an update on resolution of the issues that have been raised with respect to the implementation of the BOP. We describe in more detail below the manner in

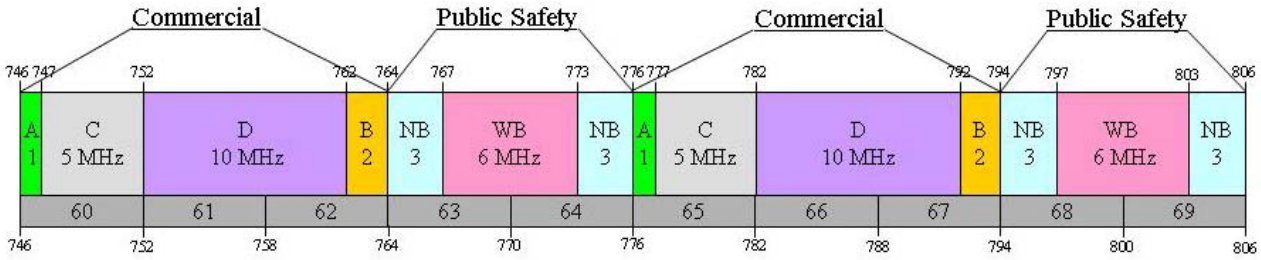
which each of these issues—the reprogramming of already-deployed equipment; updating the "CAPRAD" public safety spectrum planning database; and international border issues—will be resolved *without cost to public safety in terms of time or money*. Finally, we propose a methodology for transitioning existing A and B Block licensees to the new band plan in a way that both treats licensees fairly and does not provide them with a windfall.

II. DISCUSSION

A. Optimizing the Upper 700 MHz Band

Optimizing the 700 MHz band requires the augmentation and reconfiguration of the public safety block on which the FCC sought comment in the *Public Safety 700 MHz Broadband* proceeding, and the reconfiguration of the commercial spectrum, including the Upper 700 MHz C and D Blocks on which the FCC sought comment in the *Commercial 700 MHz* proceeding. Implementation of these changes, as described in our previous filings in those dockets, would also require changes to the rules for the Upper 700 MHz A and B Blocks, which are the subject of the above-captioned proceeding. The current Upper 700 MHz band plan is sub-optimal for both Public Safety and commercial users in light of supervening technological developments. As described below, the combination of the Broadband Optimization Plan and the Commercial 700 MHz Plan is superior because it would establish 5.5 MHz blocks for both commercial and public safety spectrum, enabling 4G networks for Public Safety as well as a 4G auction for commercial operators, and create the opportunity for a public-private partnership that would support the build-out of a public safety-grade nationwide interoperability broadband network.

Current Band Plan



WB=Wideband; NB=Narrowband

1. The Broadband Optimization Plan

In the *Public Safety 700 MHz Broadband* proceeding, Access Spectrum and Pegasus, together with Columbia Capital and Intel, set forth the BOP, which reconfigures the public safety spectrum.[3] As described in the *Notice*,[4] the BOP would increase the public safety allocation by providing an additional 1.5 MHz paired. In addition, the A Block would be increased by 500 kHz paired and relocated adjacent to the public safety block as illustrated below. The total of 1 MHz added to the A Block and 3 MHz added to the public safety block would come from the current 4 MHz in the B Block, which would be eliminated under this proposal.[5]

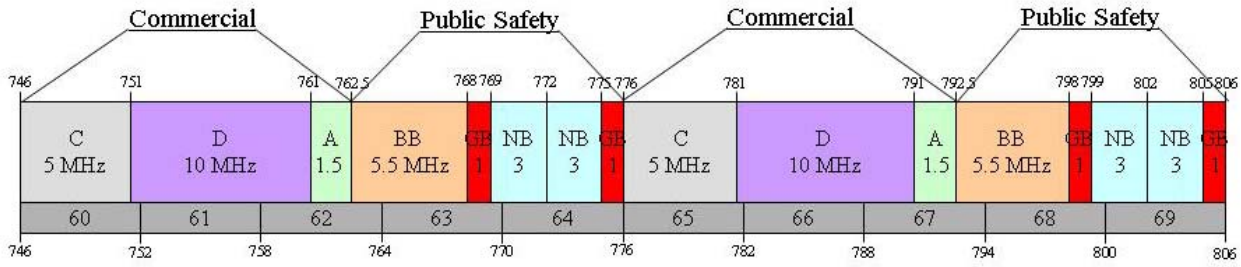
---

[3] Comments of Access Spectrum, L.L.C., Columbia Capital III, LLC, Intel Corporation, and Pegasus Communications Corporation, WT Docket No. 96-86 (June 6, 2006) at 13-14 ("BOP Comments").

[4] *Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules; Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010*, Notice of Proposed Rulemaking, 21 FCC Rcd 10413, ¶¶ 42-48 (2006) (FCC 06-133) ("*Notice*").

[5] Of the 52 B Block licenses, 42 were returned by Nextel and are currently held by the FCC.

Broadband Optimization Plan ("BOP")



WB=Wideband; NB=Narrowband; GB=Guard Band

Under the BOP, narrowband channels within the public safety block (currently totaling 6 MHz paired) would be consolidated at the upper end of each segment. To the extent that Regional Planning Committees ("RPCs") elect to permit the deployment of broadband, public safety broadband channels would be located in the lower portion of each block, and spectrum newly added to the public safety block under this proposal would be available for use as internal guard bands.[6]

The BOP offers significant benefits for Public Safety. First, it would maximize the flexibility of public safety spectrum, positioning public safety agencies to take advantage of developments in future broadband technologies. The public safety blocks would increase from

[6] Though the BOP is illustrated above as including only broadband and narrowband channels, Public Safety—through the RPCs—would have the flexibility to deploy wideband and broadband to the extent desired within available spectrum. The plan provides 3 MHz of additional spectrum for use by Public Safety for interference protection to enable the deployment of public safety broadband operations, but exactly how that spectrum is used would be within Public Safety's control. The BOP provides flexibility to deploy broadband and/or wideband in addition to narrowband channels within the public safety allocation, with the sole restriction being that Public Safety must accept interference to the same extent as the C and D Blocks within the first 1 MHz of public safety spectrum at 762.5 MHz, 776 MHz, and 792.5 MHz. The band plan described here does not propose specific channelization or measures for preventing interference within Public Safety's allocation. For example, if any "buffer" were needed between public safety operations, public safety would determine whether to achieve it by use of an explicit guard band for all geographies or by geographic frequency coordination so that neighboring geographies do not use adjacent frequencies.

24 MHz to 27 MHz, including spectrum sufficient for a 5 or 5.5 MHz broadband channel pair or four 1.25 MHz broadband channel pairs. This would accommodate a variety of broadband technologies, including CDMA2000 (EVDO), FLASH-OFDM, WCDMA (UMTS), and WiMAX. In addition, the BOP is sufficiently flexible to support implementation of broadband; a combination of broadband and wideband; and the ability of individual RPCs to determine the best combination of broadband and wideband channels for their individual regions.

The BOP also would maximize spectral efficiency for both Public Safety and commercial entities, most notably because it would reduce the amount of spectrum used for guard bands. Specifically, the BOP would decrease the number of guard bands between public safety operations from four (as considered in the *Public Safety 700 MHz Broadband* proceeding) to two, freeing 2 MHz for other public safety uses, including broadband applications. In addition, while the proposals discussed in the *Public Safety 700 MHz Broadband NPRM* would dedicate approximately 6 MHz of spectrum to guard bands between public safety operations and commercial operations,[7] the BOP would require far less spectrum for that purpose—only 1 MHz total. In all, by reconfiguring to minimize the number of guard bands, the amount of usable spectrum in the public safety block would increase by a total of 4 MHz. Of the full 60 MHz of spectrum in the Upper 700 MHz band, both public safety and commercial, this proposal would reduce the amount of necessary guard band spectrum by 7 MHz, from a total of 10 MHz to only 3 MHz.

Finally, the BOP supports the public policy goal of creating conditions conducive to mixed-use, public safety-priority networks by locating public safety broadband operations adjacent to commercial broadband operations, which would eliminate the need to include

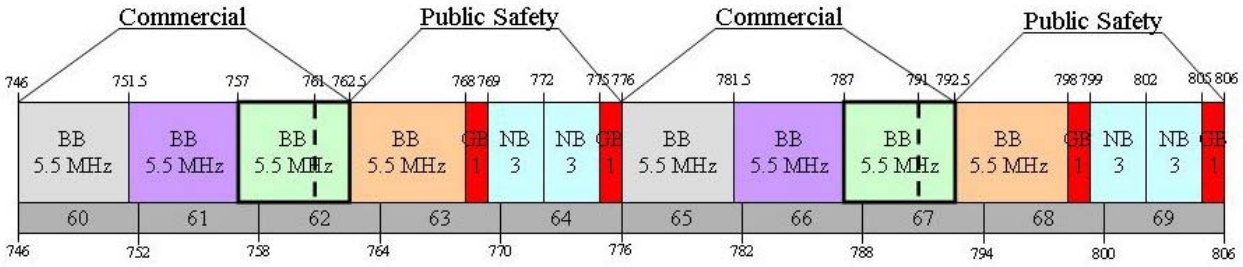
[7] *Public Safety 700 MHz Broadband 8th NPRM*, ¶¶ 14-23.

additional filtering and other components in the radio system, thereby reducing equipment costs. Under the BOP, the A Block would be capable of accommodating next generation broadband services, as the C and D Blocks can today. As a result, the licensees adjacent to public safety spectrum could partner with public safety agencies to create mixed-use broadband networks over contiguous spectrum.

2. Changes to Commercial Spectrum in the Upper 700 MHz Band

Building on the BOP, Access Spectrum and Pegasus, together with Columbia Capital and Telcom Ventures, have proposed the Commercial 700 MHz Plan, which would make complementary changes to commercial spectrum in the Upper 700 MHz band to complete the vision of optimizing the band for 4G deployments. These changes are described in detail in our comments in the *Commercial 700 MHz* proceeding, which have been cross-filed in this docket.[8] Specifically, we propose that in addition to adopting the BOP, the Commission should divide the 33 MHz of commercial spectrum into blocks that can be used to create segments of 5.5 MHz paired in order to maximize the efficient use of commercial spectrum, as shown below:

Proposed Upper 700 MHz Band Plan, Assuming Adoption of BOP



BB=Broadband; NB=Narrowband; GB=Guard Band

[8] Comments of Access Spectrum, LLC, Columbia Capital III, LLC, Pegasus Communications Corporation, and Telcom Ventures, LLC, WT Docket Nos. 06-150 and 01-309 and CC Docket No. 94-102 (Sept. 29, 2006) ("*Commercial 700 MHz Comments*"), placed in the above-captioned docket via letter from Kenneth R. Boley, Lawler, Metzger, Milkman & Keeney, LLC, to Marlene H. Dortch, FCC, WT Docket No. 06-169 (Oct. 10, 2006).

We also propose that the FCC should auction the blocks by Major Economic Area ("MEA"); use package bidding in order to facilitate entry, enable the creation of larger geographic areas, and allow aggregation into larger channel blocks should the market prefer such a configuration; and create efficient mechanisms, including two-sided auctions, to address interdependence with already-licensed spectrum, specifically the current A Block spectrum. We propose that the Commission design the service rules and technical rules to maximize technological flexibility and spectrum capacity, minimize infrastructure costs, and protect operations in the Upper 700 MHz public safety spectrum. And finally, we propose the establishment of an incentive (in the form of a bidding preference) for commercial operators to provide public-safety grade infrastructure and priority access for Public Safety in times of emergency.

Our Commercial 700 MHz Plan would build on the BOP by expanding the benefits to Public Safety and further improving the Upper 700 MHz commercial spectrum.[9] The proposal would enhance U.S. broadband development and promote U.S. global leadership by maximizing technology options in the 700 MHz band. The 5.5 MHz building block approach is superior for both 3G and 4G technologies because it affords an 11 – 33 percent increase in capacity with a 10 percent increase in spectrum, leading to superior performance.

The Commercial 700 MHz Plan would also leverage commercial deployment to lower costs for Public Safety. Establishing 5.5 MHz blocks would facilitate the opportunity for Public Safety to take advantage of economies of scale as manufacturers develop products for commercial operators in adjacent bands, which in turn increases the total market size. In addition, the proposal includes a bidding preference to create incentives for commercial

[9] As noted, the Commercial 700 MHz Plan builds upon, and is thus dependent upon, implementation of the BOP; however, implementation of the BOP is not dependent upon adoption of the Commercial 700 MHz Plan.

operators on spectrum adjacent to public safety spectrum to make the commercial operators' infrastructure available to Public Safety at no cost and to provide for free Public Safety priority access to commercial broadband spectrum during emergencies.

Further, the Commercial 700 MHz Plan structures the spectrum bands and the auction in a way that maximizes the capacity available for allocation and use, so as not to waste spectrum. Allowing use of more spectrum means that service providers will be able to construct networks at a lower dollar per MHz cost, thereby enabling greater investment, superior performance, and the delivery of a larger variety of services at lower prices to a larger number of customers. Finally, the Commercial 700 MHz Plan provides a variety of entry strategies and, through the use of well-crafted auction rules including package bidding, would increase competition for all aspects of 4G, including access to networks, applications, and services.

3. Harmonizing the Technical Rules for Upper 700 MHz Commercial Spectrum

The linkage among the three ongoing Upper 700 MHz proceedings is particularly evident when considering the technical rules for the commercial spectrum in the band. Changes made to public safety spectrum under the BOP would eliminate any need to apply different rules to different commercial blocks in the Upper 700 MHz band: protection of public safety operations would no longer require such disparate treatment. Rules for the Upper 700 MHz C and D Blocks could be extended to apply to all commercial spectrum in the band, and measures specific to the A and B Blocks, including the cellular architecture prohibition and adjacent channel power ("ACP") restrictions,[10] could be eliminated.

[10] 47 C.F.R. §§ 27.2(b) and 27.53(d). The *Notice* requests comment on whether to retain, alter, or eliminate these two restrictions. *Notice,* ¶¶ 29, 34.

Under current rules, the Upper 700 MHz C and D Blocks are subject to a number of technical requirements, including limitations on out-of-band emissions ("OOBE"), antenna height, and transmission power. Public safety narrowband operations under the current band plan are separated from the C and D Blocks by a minimum of 1 MHz of spectrum (the A and B Blocks). C and D Block licensees are not subject to either the cellular architecture prohibition or ACP restrictions.

Under the BOP, all commercial spectrum would be situated similarly to the current C and D Blocks. To the extent that public safety operations at the lower end of the public safety allocation require separation from adjacent commercial operations, public safety would have spectrum available to provide the necessary separation. Narrowband operations at the upper end of the public safety allocation would be separated from adjacent commercial spectrum by a 1 MHz public safety-controlled internal guard band, equivalent in terms of spectrum separation to what is in place today; however, in this case, Public Safety is in control and not a commercial licensee.[11]

As a result of the BOP's separation between public safety narrowband operations and commercial operations, the same rules applied to the C and D Blocks could be applied to all of the reconfigured commercial spectrum in the band. The cellular architecture prohibition and ACP limits, designed for the current band plan in which the A and B Blocks serve as guard

[11] The *Notice* requests comment on a joint Motorola/UTC proposal to reallocate returned B Block spectrum as narrowband interoperability channels for critical infrastructure industries. *Notice*, ¶¶ 37-38. Subsequently, Motorola proposed that the Commission adopt the BOP and reallocate from Public Safety to critical infrastructure industries the 1 MHz paired 775-776 MHz and 805-806 MHz. Letter from Steve B. Sharkey, Director, Spectrum and Standards Strategy, Motorola Inc. to Marlene H. Dortch, Secretary, FCC, WT Docket Nos. 96-86, 06-150, and 06-169, Attachment at 6 (Oct. 4, 2006) ("Motorola *Ex Parte*").

bands for public safety narrowband operations, would no longer be necessary.[12] Indeed, the current C and D Block rules may well be more restrictive for commercial licensees than necessary with respect to the limitations the rules impose upon emissions into public safety spectrum that is not used for narrowband operations (*e.g.* for guard band, wideband, or broadband). The Commission should consider liberalizing such rules. In any event, a unified set of technical rules should apply to commercial spectrum in the Upper 700 MHz band.[13]

4. Unifying the Service Rules for Upper 700 MHz Commercial Spectrum

The *Notice* requests comment on whether the Commission should retain current band manager rules or should apply "a different regulatory structure, such as the Secondary Markets rules."[14] In the attached Appendix, we provide a detailed analysis explaining why, in light of the purposes, benefits, and burdens of both regulatory approaches, the Commission should replace the Upper 700 MHz band manager rules with the secondary markets rules.

---

[12] Under the modification to the BOP proposed by Motorola, public safety narrowband spectrum would be separated from commercial broadband spectrum by a block of 1 MHz paired allocated to critical infrastructure industries. This modification would not change the effect of our proposal: there would be no need to apply either the cellular architecture prohibition or ACP rules to commercial spectrum in the Upper 700 MHz band. Motorola *Ex Parte*, Attachment at 6. If the Commission were to adopt Motorola's modification to the BOP, the Commission should emphasize that the responsibility of commercial licensees in the Upper 700 MHz band is to protect public safety operations, not to protect critical infrastructure industries. Adoption of the Motorola proposal should not result in the placement of additional limitations upon non-critical infrastructure commercial licensees to protect operations in the critical infrastructure industries allocation beyond the level of protection provided to operations in other Upper 700 MHz commercial spectrum.

[13] For a discussion of interference protection features of the BOP, s*ee* Declaration of Dr. Paul J. Kolodzy, ¶¶ 19-22 (Sept. 29, 2006) ("Kolodzy Decl."), provided as Attachment B to the *Commercial 700 MHz Comments* (explaining that under the BOP, the role of the A and B Blocks in separating public safety operations from commercial operations would be performed by internal public safety guard bands created from newly allocated spectrum, thus providing comparable interference protection to public safety operations).

[14] *Notice*, ¶ 22.

Licensees in the Upper 700 MHz A and B Blocks currently operate as band managers under rules established by the Commission early in 2000.[15] These rules, which the Commission adopted as an experiment to improve spectrum access, flexibility, and efficiency by allowing the development of a "free market" in spectrum, provide licensees the ability to lease spectrum to third parties, but they also impose significant restrictions.[16] Three years after it adopted the band manager rules, the Commission promulgated separate rules to enable and govern secondary market spectrum leasing.[17] Although these new secondary markets rules apply to most wireless radio services, the Commission has not yet extended them, as it logically should, to licensees in the Upper 700 MHz A and B Blocks.[18] As a result, the band manager rules continue in effect for A and B Block licensees, potentially limiting efficient uses of the spectrum in ways that are contrary to public policy and hamstring the ability to use A and B Block spectrum for next-generation broadband operations. For example, the band manager rules require that A or B Block licensees (1) must act only as a "spectrum broker" that is not permitted to use the

---

15 *See* Appendix at App. 1-App. 2, *infra*, for a discussion of the band manager rules.

16 *Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules*, Second Report and Order, 15 FCC Rcd 5299, ¶¶ 29-31, 54 (2000) ("*Upper 700 MHz Second R&O"*) (band manager "will act only as a spectrum broker and not as a wireless service provider"); ¶ 59 ("[I]n order to ensure that we conduct a useful test of the Band Manager concept and obtain the full benefits of this new licensing approach, . . . we will require Guard Band Managers to lease the predominant amount of their spectrum to non-affiliates.").

17 *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, Report and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 20604, ¶ 2 (2003) ("*Secondary Markets First R&O*"). See Appendix at App. 3-App. 5, *infra*, for a discussion of the secondary markets rules.

18 *Secondary Markets First R&O*, ¶ 85 n.189; *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking, 19 FCC Rcd 17503, ¶ 64 (2004) ("*Secondary Markets Second R&O*").

spectrum itself as a wireless service provider;[19] and (2) to lease the "predominant amount of their spectrum" to non-affiliates.[20]

Without imposing the operational limitations of the band manager requirements, the secondary markets rules achieve the same goals as the band manager rules. Both regulatory approaches enable licensees to lease spectrum to third parties, resulting in increased spectrum flexibility and efficiency. Specifically, one goal of the band manager approach—making spectrum available for specialized communications needs[21]—is met equally well by either a "spectrum manager" lease or a *de facto* transfer of control lease under the secondary markets rules.

The secondary markets rules not only meet the spectrum efficiency and technology deployment goals of the band manager approach, but they also provide similar protections from interference to operations on adjacent spectrum.[22] Under the band manager model, the licensee is responsible to ensure that the lessee complies with the terms of its lease and with the Commission's operational requirements, including those related to interference.[23] Under the spectrum manager leasing approach in the secondary markets framework, the FCC relies upon

---

19 *Upper 700 MHz Second R&O*, ¶¶ 27, 54. Band managers are permitted to lease some of their licensed spectrum to affiliated entities for the affiliates' own internal use or for their provision of commercial or private radio services. *Id*., ¶ 59.

20 *Id*., ¶ 59; 47 C.F.R. § 27.603(c).

21 *Upper 700 MHz Second R&O*, ¶ 32.

22 Because the Commission expected numerous and diverse commercial entities to use A and B Block spectrum, it noted that it would be beneficial to have a single entity—the band manager—responsible for coordinating A and B Blocks operations in order to ensure protection of Public Safety. *Upper 700 MHz Second R&O*, ¶¶ 30, 33. Because of the subsequent development and widespread application of the secondary market rules, however, the band manager rules may appropriately be replaced with the secondary market rules for the A and B Blocks, regardless of whether the Commission adopts the BOP or other aspects of this overall proposal.

23 47 C.F.R. § 27.601.

the same vehicle as under the band manager approach—the licensee's obligation—to protect adjacent operations from interference; the FCC also applies the interference rules to the lessee.[24] Thus, like a band manager,[25] a spectrum manager serves as a single entity to coordinate the frequency usage and operating parameters of sites in the area of its license. Replacing the band manager rules with the secondary markets rules would maintain a level of protection from interference to adjacent public safety operations that is equivalent to the level of protection provided under the band manager rules.[26] Thus, as explained in greater detail in the attached Appendix, the secondary markets rules are a superior approach to spectrum leasing than the band manager rules for next-generation deployments and should be applied to all commercial licensees in the Upper 700 MHz.[27]

B. Resolution of BOP Implementation Issues

As recognized in the *Notice*, there were a number of implementation issues that had to be resolved in order for the BOP to go forward.[28] Since proposing the BOP in the *Public Safety 700 MHz Broadband* proceeding, Access Spectrum and Pegasus have worked with Public Safety, equipment manufacturers, and others to address and resolve these issues. Although few systems

---

24 47 C.F.R. §§ 1.9020(b).

25 *Upper 700 MHz Second R&O*, ¶ 30.

26 *See* Appendix at App. 6-App. 7, *infra*, for a discussion of licensee responsibilities for interference protection under both the band manager rules and the secondary markets rules.

27 The Access Spectrum/Pegasus proposal underscores the desirability of replacing the band manager rules with the secondary market rules, because it creates a need for unified rules across the Upper 700 MHz commercial spectrum. However, the band manager rules can and should be replaced with secondary markets rules, independent of the FCC's consideration of the remainder of this proposal. The Commission may also consider allowing existing A and B Block licensees, which are organized as band managers under current rules, the option of being grandfathered and thus continuing to be covered by current band manager rules. In any case, the Commission should not require licensees that elect to operate pursuant to the secondary markets rules to renegotiate their existing contracts or spectrum use agreements.

28 *Notice*, ¶ 5.

have actually been deployed in the Upper 700 MHz public safety allocation, our efforts have focused on addressing issues relevant to both current and future deployments.

1. Impact on Already-Deployed 700 MHz Public Safety Equipment

In the *Notice,* the Commission notes that relocating public safety narrowband channels as contemplated in the BOP may require the reprogramming of an estimated 600,000 *dual-band 700 MHz/800 MHz* radios.[29] This issue has been addressed through extensive work among the public safety users, the manufacturers and the A and B Block licensees. In its *ex parte* filing on October 4, 2006, Motorola notes that the vast majority of these radios are not yet used in the 700 MHz band and reports its "[v]ery high confidence" that there will be essentially no incremental cost with regard to these radios as a result of implementation of the BOP.[30]

In addition, Motorola states that there are "[o]nly a few" narrowband voice base stations already operating in spectrum that would not continue to be narrowband under the BOP, and that moving them to different channels would require no hardware or firmware changes.[31] As discussed below, the public safety entities with systems that have been deployed should not be required to pay for conversion of those systems. In all, Motorola states that converting embedded public safety equipment to the BOP would have "minimal impact."[32] Further, Motorola and M/A-COM have agreed to coordinate with their respective customers and, if necessary, perform the work to transition any existing public safety system in the 700 MHz band, including any reprogramming of radios and translation of base stations made necessary by the BOP.

---

29 *Notice,* ¶ 45.

30 Motorola *Ex Parte,* Attachment at 3.

31 *Id.*

32 *Id.*

2. Updating the Spectrum Planning Database

Planning changes necessitated by the BOP could also be accomplished without significant costs in terms of time or money with the help of the Computer Assisted Pre-Coordination Resource and Database System ("CAPRAD"), which is facilitated and administered by the National Law Enforcement and Corrections Technology Center.[33] If the Commission amends the rules to allow broadband operations in public safety spectrum, CAPRAD would need to be updated to reflect the new broadband channels. If the Commission were to adopt the BOP, CAPRAD also would need to be updated to reflect the relocation of the current narrowband channels. As discussed below, implementation of the BOP will not require Public Safety to pay for the necessary changes to CAPRAD.

3. Ensuring That Public Safety Does Not Incur Additional Costs Due to Conversion of Deployed Systems or Changes to CAPRAD

The adoption of the BOP would result in certain additional costs due to the need to convert existing narrowband systems and make changes to CAPRAD, as described above. In order to facilitate adoption of the BOP, which will benefit Public Safety as well as A and B Block licensees, Access Spectrum and Pegasus are prepared to cover these additional costs, provided that all of the key provisions of the BOP are adopted, including replacing the current cellular architecture prohibition and the ACP rules with the technical rules that apply to the C and D Blocks, and replacing the band manager rules with the secondary markets rules. While Access Spectrum and Pegasus have conducted due diligence on the expected additional costs to

[33] The National Law Enforcement and Corrections Technology Center is operated by the Denver Research Institute. CAPRAD helps public safety entities plan and coordinate the use of allocated channels based on both geographic and spectral separation. CAPRAD would need to be updated because, under the BOP, the frequencies for public safety narrowband operations would be relocated and the potential for large broadband channels would need to be incorporated into the system.

the greatest extent possible, and expect that the total costs for both converting the small number of existing systems and for the changes to CAPRAD will not be insignificant but will be manageable, the extent and nature of the costs must be further defined. While Access Spectrum and Pegasus are being very proactive and intend to resolve all remaining cost issues for Public Safety, the two companies require more detailed information from the vendors to properly define the costs of those changes the two companies expect to bear.

4. International Border Issues

The *Notice* also recognizes that the BOP "may result in the relocated narrowband channels being blocked by existing Canadian TV broadcasters in border areas."[34] Engineers from public safety entities, equipment manufacturers, and A and B Block licensees have been working together to address and resolve this issue. This 700 MHz Technical Working Group ("TWG") has developed a recommendation for resolving the border issue as described generally below and in great detail in the TWG report filed today in this docket.[35]

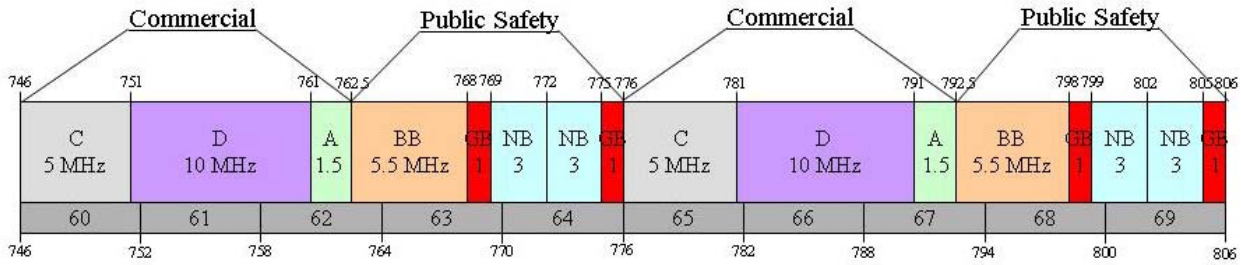
The Canadian government has agreed to clear broadcasters from TV channels 63 and 68 and to use the cleared spectrum for public safety purposes, but there still is no such agreement with regard to TV channels 64 and 69. As illustrated below, the majority of public safety narrowband spectrum under the BOP overlays TV channels 64 and 69.

---

[34] *Notice*, ¶ 45.

[35] Report of the 700 MHz Technical Working Group (Oct. 23, 2006), transmitted via letter from Ruth Milkman, Counsel for Access Spectrum, LLC and Kathleen Wallman, Adviser to Pegasus Communications Corp., WT Docket Nos. 06-169 and 96-86 (Oct. 23, 2006).

Broadband Optimization Plan ("BOP")



WB=Wideband; NB=Narrowband; GB=Guard Band

Two MHz of spectrum in TV channels 63 and 68 (769-770 MHz and 799-800 MHz), however, are slated for public safety narrowband channels under the BOP and, with a few minor modifications, will provide ample spectrum to accommodate U.S. public safety deployments in the border region.[36] The TWG report recommends the remaining spectrum in Channels 63 and 68 be made "flexible use" to ensure that affected public safety agencies are able, with RPC coordination, to deploy the types of networks they desire.

In addition to providing enough narrowband general use channels, the TWG report also demonstrates that there is sufficient spectrum in TV channels 63 and 68 to support both national and statewide interoperability requirements in the areas near the U.S.-Canadian border. Further, the current apportionment of general use channels between the two countries can be maintained. Indeed, the TWG report suggests that the BOP may simplify negotiations between the two countries. Because the BOP would increase by 1.5 MHz paired the amount of spectrum available for U.S. public safety use, additional spectrum could be made available for Canadian public safety purposes, as well. In effect, the TWG report demonstrates that the international border issues can be resolved in a straightforward and expeditious manner while not delaying any public safety deployments, including the New York State Public Safety System.

---

[36] These 2 MHz of spectrum could also be used to accommodate the four current common "Calling Channel" pairs.

C. Conforming Existing Licenses to the BOP

As recognized in the *Notice,* the implementation of the BOP raises issues regarding the methodology for compensating licensees that relinquish B Block licenses in order to optimize the Upper 700 MHz band.[37] The *Notice* also observes that implementing the BOP would require a methodology for augmenting A Block licenses in a manner that both treats A Block licensees fairly and avoids providing licensees a windfall.[38]

We propose to address the A and B Block compensation issues through a private negotiation among the A and B Block licensees. It is expected that such a negotiation will lead to a result in which the licensees "swap" spectrum on a MHz-pop for MHz-pop basis. It is reasonable to anticipate that such a negotiation would likely lead to licensees' consolidation of their holdings on a geographic basis. It is expected that at the conclusion of the negotiation, each licensee would hold approximately the same number of MHz-pops in the reconfigured A Block that each currently holds under today's A and B Block licenses. The remaining A Block spectrum would then be auctioned by the FCC at the same time as the Upper and Lower 700 MHz commercial licenses.

Because the number of current A and B Block licensees is small, we are highly optimistic that the licensees will be able to implement this spectrum swap through a private negotiation and then submit the plan to the FCC for approval of the necessary transfers of control. If, contrary to our expectation, the licensees are unable to reach agreement, the FCC has a number of techniques that it could use to achieve a fair result, including a two-sided auction.

---

37 *Notice,* ¶¶ 38, 54-55.

38 *Id.*, ¶ 48.

III. CONCLUSION

In conclusion, Access Spectrum and Pegasus request that the Commission adopt the Broadband Optimization Plan and the Commercial 700 MHz Plan, as well as related proposals described herein.

Respectfully submitted,

/s/ Michael I. Gottdenker
Michael I. Gottdenker, Chairman and CEO
Andrew J. Rein, Director, Strategy & Operations
Access Spectrum, LLC
2 Bethesda Metro Center
Bethesda, MD 20814-6319

Ruth Milkman
Kenneth Boley
Lawler, Metzger, Milkman & Keeney, LLC
2001 K Street NW, Suite 802
Washington, DC 20006
kboley@lmmk.com
Counsel to Access Spectrum, LLC

/s/ Marshall W. Pagon
Marshall W. Pagon, Chairman and CEO
Cheryl Crate, Vice President for Corporate Communications and Government Relations
Pegasus Communications Corp.
225 City Avenue, Suite 200
Bala Cynwyd, PA 19004

Kathleen Wallman
Wallman Consulting, LLC
9332 Ramey Lane
Great Falls, VA 22066
(202) 641-5387
wallmank@wallman.com
Adviser to Pegasus Communications Corp.

October 23, 2006

APPENDIX

REPLACING THE BAND MANAGER RULES WITH THE SECONDARY MARKETS RULES

The Commission should lift the restrictive band manager rules and apply in their place the secondary markets rules.[39] This Appendix provides support for this proposition.

A. The Band Manager Rules

In March 2000, when the Commission adopted the band manager model for the A and B Blocks of the Upper 700 MHz band, it explained that

> enabling a "free market" in spectrum to develop could have significant public interest benefits in ensuring the limited spectrum resource is used efficiently, and the Guard Band Manager approach should help us advance that goal.[40]

As envisioned by the Commission, an A or B Block licensee would be a "spectrum broker" that would "coordinate the use of frequencies among its customers to minimize interference," tailoring the use of its spectrum subject to certain technical restrictions to meet the temporal and geographic spectrum needs of its customers (such as a short-term need for access to spectrum, or access to spectrum covering an irregular geographic area).[41] In order to meet these objectives, the Commission permitted band managers to lease their spectrum holdings to third-party customers pursuant to written agreements while continuing to hold the band manager-licensee responsible for lessee compliance with the Act and the Commission's rules.[42]

---

39 The Commission may also consider allowing existing A and B Block licensees, which are organized as band managers under current rules, the option of being grandfathered and thus continuing to be covered by current band manager rules.

40 *Upper 700 MHz Second R&O*, ¶ 31.

41 *Id*., ¶¶ 28-29.

42 *Id*., ¶¶ 46-49; 47 C.F.R. § 27.601(a). The rules enabling and regulating band managers in the A and B Blocks of the Upper 700 MHz Band (746/776-747/777 MHz and 762/792-764/794 MHz) are set forth in Part 27, Subpart G of the Commission's rules, 47 C.F.R. §§ 27.601-27.607.

Although the Commission intended the band manager concept to facilitate the efficient use of spectrum, it imposed a number of requirements that significantly restrict the use of current A and B Block spectrum. For example, under the rules adopted by the Commission in 2000, an A or B Block licensee: (1) must make the licensed spectrum available to third parties through "leasing" the spectrum, acting only as a "spectrum broker" that is not permitted to use the spectrum itself as a wireless service provider;[43] and (2) is required to lease the "predominant amount of its spectrum" to non-affiliates.[44] In addition, there are limits on the ability of band managers to negotiate freely with lessees regarding use of the licensed frequencies.[45]

The restriction on a band manager in using its spectrum to provide wireless services complicates prospects for any broadband system that an A or B Block licensee might wish to deploy on its own or through affiliates, particularly in combination with the requirement that the band manager lease the majority of its spectrum to unaffiliated parties. Because a single broadband channel would occupy all or at least most of the spectrum in the current A or B Block, the rules appear to foreclose an affiliate-deployed broadband service.

---

[43] *Upper 700 MHz Second R&O*, ¶¶ 27, 54. Band managers are permitted to lease some of their licensed spectrum to affiliated entities for the affiliates' own internal use or for their provision of commercial or private radio services. *Id*., ¶ 59.

[44] *Id*., ¶ 59; 47 C.F.R. § 27.603(c).

[45] 47 C.F.R. §§ 27.602(g), 603(b). For example, in leasing spectrum rights a band manager cannot require an end user to purchase telecommunications equipment only from one manufacturer or vendor, to require use of a particular technology, or to impose operating rules that would have the same practical effect. *Upper 700 MHz Second R&O*, ¶ 66. In contrast, licensees of other spectrum bands may negotiate such lease provisions, with the Commission relying on the marketplace to ensure that the transaction maximizes efficiency.

B. The Secondary Markets Spectrum Leasing Rules

Three years after adopting the band manager rules for A and B Block licensees, the Commission again promulgated rules[46] designed to create a "free market" in spectrum leasing rights, describing its goals in very similar language to that used in connection with the band manager approach:

> These flexible policies continue our evolution toward greater reliance on the marketplace to expand the scope of available wireless services and devices, leading to more efficient and dynamic use of the important spectrum resource to the ultimate benefit of consumers throughout the country.[47]

Rather than limit the application of the new rules to a single set of licensees, the Commission applied the secondary markets rules far more broadly, including most wireless radio services,[48] though explicitly excluding services in the Upper 700 MHz A and B Blocks.[49] Also, the secondary markets rules contemplate two different kinds of leasing arrangements: "spectrum manager" leasing,[50] where the licensee retains *de facto* control over the license (similar to band managers); and "*de facto* transfer" leasing, in which the lessee takes over control of, and greater responsibility for, the license.[51]

---

46 The secondary markets spectrum leasing rules are set forth in Part 1, Subpart X of the Commission's rules, 47 C.F.R. §§ 1.9001-1.9080.

47 *Secondary Markets First R&O*, ¶ 2.

48 *Id*., ¶ 84 n.181.

49 When it initially promulgated the secondary markets spectrum leasing rules, the Commission excluded services in the Upper 700 MHz A and B Blocks and a number of other services, most of which involved shared frequencies. *Secondary Markets First R&O*, ¶¶ 82-85. Upon revisiting the question, the Commission again declined to extend the secondary markets spectrum leasing rules to the A and B Blocks because it "already has its own distinct set of policies and rules regarding leasing arrangements, and no commenter proposed replacing those policies." *Secondary Markets Second R&O*, ¶ 64.

50 In this Appendix, "spectrum manager" is used as a term of art applicable only to the secondary markets rules, which are distinct from the band manager rules.

51 *Secondary Markets First R&O*, ¶¶ 12-13.

Under "spectrum manager" leasing,

> licensees and spectrum lessees may enter into spectrum leasing arrangements—for any amount of spectrum, in any geographic area, and for any period of time within the scope and term of the license—without the need for prior Commission approval.[52]

Although the licensee may apply the lessee's activities toward meeting any construction or performance requirements, the spectrum manager licensee is primarily and ultimately responsible for compliance with the Act and the Commission's rules, including interference-related requirements, much like a band manager licensee.[53] Unlike a band manager, however, a "spectrum manager" is not subject to any restriction on the amount or proportion of its spectrum that it may lease to an affiliate or that it may retain and use to offer its own services.

Under the "*de facto* transfer of control" leasing option, it is the lessee and not the licensee that is directly and primarily responsible for meeting the Act and the Commission's rules, including interference rules, though the licensee is responsible for the lessee's ongoing and egregious violations about which the licensee knew or should have known.[54] Thus, while the licensee retains *legal* control of the leased spectrum, it is the lessee that is using and operationally controlling the spectrum on a day-to-day basis and is responsible for such use, including the responsibility of interacting with the Commission with regard to the leased spectrum.[55] Although the Commission requires licensees to make applications to and receive advance approval from the Commission for this type of leasing option, its rules provide for

---

52 *Id*., ¶ 12.

53 *Id*.

54 47 C.F.R. § 1.9030(b)(1), (2).

55 *Secondary Markets First R&O*, ¶ 13.

immediate grant of most applications filed electronically through the Universal Licensing System.[56]

C. The Secondary Markets Spectrum Leasing Rules Should Replace the Band Manager Rules for A and B Block Licensees

The secondary markets spectrum leasing rules effectively have overtaken the band manager experiment, achieving similar policy objectives in a more tailored manner. Prior to the *Secondary Markets First R&O*, the Commission had endorsed no method other than the band manager approach for making licensed spectrum readily and easily available to users other than the licensee itself.[57] That band manager approach was a test,[58] however, and an unintended consequence has been the inefficient use of highly valuable spectrum, creating a stark contrast with the Commission's more recent efforts to provide licensees greater flexibility. The secondary markets spectrum leasing rules represent such an effort,[59] and they have overtaken the band manager experiment, enabling licensees to use or lease as much of their licensed spectrum as they wish, effectively meeting the goals of the band manager model adopted earlier in the *Upper 700 MHz Second R&O,* including the promotion of more efficient use of the spectrum.

---

56 *Secondary Markets Second R&O*, ¶ 29.

57 *Secondary Markets First R&O*, ¶ 34 n.57. Although leasing was permitted as long as the licensee retained control as defined in the 1963 *Intermountain Microwave* standard, the Commission in the *Secondary Markets First R&O* refined that "outdated" standard to "better accord[] with our contemporary market-oriented spectrum policies, fast-changing consumer demands, and technological advances." *Id*., ¶ 3.

58 *Upper 700 MHz Second R&O*, ¶ 59 (FCC endeavoring to conduct "a useful test of the Band Manager concept").

59 *Secondary Markets First R&O*, ¶ 2. *See also Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 14165, ¶ 1 (2004) (adopting fundamental restructuring of 2.5 GHz licensing scheme to "greatly enhance[] flexibility in order to encourage the highest and best use of spectrum domestically and internationally, and the growth and rapid development of innovative and efficient communications technologies and services").

Upper 700 MHz commercial spectrum will likely be used for broadband applications, whether the systems are deployed by unaffiliated spectrum lessees, by lessees affiliated with the licensee, or by the licensees themselves. The band manager rules, as explained above, require that a licensee lease more than half of its spectrum to non-affiliated entities and prohibit the licensee from using the spectrum to offer its own services. While the band manager rules require that the licensee bear responsibility for lessee compliance with Commission rules, the secondary markets rules provide a "transfer of *de facto* control" option where the lessee takes that responsibility. Because of these differences, the secondary markets rules offer a framework that is better suited to deploying next generation wireless broadband services than is the band manager approach.

The secondary markets rules not only meet the spectrum efficiency and technology deployment goals of the band manager approach, but they also provide similar protections from interference to operations on adjacent spectrum. Under the band manager model, the licensee is responsible to ensure that the lessee complies with the terms of its lease and with the Commission's operational requirements, including those related to interference.[60] Under the "spectrum manager" leasing approach in the secondary markets framework, the FCC relies upon the same vehicle as under the band manager approach—the licensee's obligation—to protect adjacent operations from interference; the FCC also applies the interference rules to the lessee.[61]

---

[60] 47 C.F.R. § 27.601 (band manager may lease spectrum to user as long as compliance with FCC rules is maintained).

[61] 47 C.F.R. §§ 1.9020(b) ("The licensee is directly and primarily responsible for ensuring the spectrum lessee's compliance with the Communications Act and applicable Commission policies and rules."); *Id.* § 1.9020(d)(1) ("The interference . . . rules applicable to the use of the spectrum by the licensee as a condition of its license authorization also apply to the use of the spectrum leased by the spectrum lessee.").

Thus, like a band manager,[62] a spectrum manager serves as a single entity to coordinate the frequency usage and operating parameters of sites in the area of its license. Even under "*de facto* transfer of control" leasing as provided by the secondary markets rules, where the lessee rather than the licensee is directly and primarily responsible for compliance with interference protection requirements, the licensee is still responsible for the lessee's ongoing violations and other egregious behavior about which the licensee knows or should know.[63] Lessees under the secondary markets rules must be qualified and eligible—just as a licensee must be—to operate in the spectrum.[64] Thus, under the secondary markets rules, the Commission has provided protection from interference to adjacent operations that is equivalent to that provided under the band manager rules.

Finally, one benefit of the band manager approach—making spectrum available for specialized communications needs (such as a private radio service for a railroad company in a long, narrow area)[65]—is met equally well by either a spectrum manager lease or a *de facto* transfer of control lease. Under the secondary markets rules, the flexibility to tailor spectrum offerings to the specialized needs of specific customers is inherent in the market and the flexibility of the lease instrument, not specific regulatory restrictions.

Thus, the experimental band manager rules, while an important innovation at the time of their adoption, have been overtaken by the more comprehensive, secondary markets approach. In addition, because of technological advances, next-generation wireless broadband applications are now feasible in the 1.5 MHz paired blocks such as the reconfigured A Block. We urge that

---

62 *Upper 700 MHz Second R&O*, ¶ 30.

63 47 C.F.R. § 1.9030(b)(1), (2).

64 47 C.F.R. §§ 1.9020(d)(2) and 1.9030(d)(2) ("The spectrum lessee must meet the same eligibility and qualification requirements that are applicable to the licensee . . .").

65 *Upper 700 MHz Second R&O*, ¶ 32.

the time has come for the Commission to apply the secondary markets spectrum leasing rules to all commercial licensees in the Upper 700 MHz band, thereby allowing them to choose, like other licensees, between "spectrum manager" leasing and "*de facto* transfer" leasing.[66]

[66] Although the Commission in the *Secondary Markets Second R&O* did consider extending the secondary markets rules to band managers, it had received no comment making this proposal and thus declined to do so at that time. *Secondary Markets Second R&O*, ¶ 64.

Certificate of Service

I, Ruth E. Holder, hereby certify that on this 23rd day of October, 2006, I caused a true and correct copy of the foregoing Comments of Access Spectrum, LLC and Pegasus Communications Corporation to be mailed by electronic mail to:

Best Copy and Printing, Inc.
445 12th Street SW, Room CY-B402
Washington, DC 20554
fcc@bcpiweb.com

/s/ Ruth E. Holder
Ruth E. Holder